

# Repeater power supply - MINI MCR-SL-RPS-I-I - 2864422

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MCR repeater power supplies, screw connection, input signal: (0)4...20 mA, output signal: (0)4...20 mA

## Product Description

The 6.2 mm wide MINI MCR-SL-RPS-I-I... repeater power supply supplies transmitters in the field and electrically isolates the input signal from the output signal. The module can be used in both isolator and repeater power supply operation. Electrically isolated 0...20 mA or 4...20 mA analog standard signals are available on the input and output side. The power supply (19.2 V DC to 30 V DC) can be supplied via connection terminal blocks on the modules or in conjunction with the DIN rail connector.

## Product Features

- Power supply possible via the foot element (T-connector)
- Can also be used as an isolator without supply
- Highly-compact repeater power supplies for electrical isolation, amplification, and filtering of standard analog signals
- 3-way isolation
- Supply of 2-wire and passive 3-wire sensors



## Key commercial data

package_quantity	1
GTIN	4017918956165

## Technical data

### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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### Dimensions

Width	6.2 mm
Height	93.1 mm
Depth	102.5 mm

### Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Degree of protection	IP20

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## Technical data

### Input data

<b>Description of the input</b>	Current input (sensor circuit)
<b>Current input signal</b>	4 mA ... 20 mA (repeater power supply and isolator operation)
<b>Current input signal</b>	0 mA ... 20 mA (isolator operation)
<b>Max. input current</b>	28 mA
<b>Input resistance current input</b>	approx. 50 Ω
<b>Transmitter supply voltage</b>	U <sub>B</sub> - max. 4.5 V for load 0 mA ... 20 mA
<b>Transmitter supply voltage range</b>	14.7 V DC ... 25.5 V DC

### Output data

<b>Output name</b>	Current output
<b>Current output signal</b>	4 mA ... 20 mA (repeater power supply and isolator operation)
<b>Current output signal</b>	0 mA ... 20 mA (isolator operation)
<b>Max. output current</b>	28 mA
<b>Load/output load current output</b>	≤ 500 Ω (at I = 20 mA)
<b>Transmission Behavior</b>	1:1 to input signal

### Power supply

<b>Nominal supply voltage</b>	24 V DC
<b>Supply voltage range</b>	19.2 V DC ... 30 V DC (The T connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, Order No. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail according to EN 60715))
<b>Power consumption</b>	< 900 mW (at 24 V DC and in repeater power supply operation)
<b>Power consumption</b>	< 600 mW (at 24 V DC and in isolator operation)

### Connection data

<b>Connection method</b>	Screw connection
<b>Conductor cross section solid min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	26
<b>Conductor cross section AWG/kcmil max</b>	12
<b>Conductor cross section stranded min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	2.5 mm <sup>2</sup>
<b>Stripping length</b>	12 mm
<b>Screw thread</b>	M3

### General

<b>No. of channels</b>	1
<b>Maximum transmission error</b>	≤ 0.2 % (of final value)
<b>Transmission error, typical</b>	≤ 0.1 % (of final value)
<b>Maximum temperature coefficient</b>	< 0.01 %/K
<b>Temperature coefficient, typical</b>	< 0.002 %/K
<b>Limit frequency (3 dB)</b>	approx. 100 Hz
<b>Step response (10-90%)</b>	approx. 3.5 ms

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## Technical data

### General

<b>Protective circuit</b>	Transient protection
<b>Electrical isolation</b>	Basic insulation according to EN 61010
<b>Surge voltage category</b>	II
<b>Pollution degree</b>	2
<b>Rated insulation voltage</b>	50 V AC/DC
<b>Test voltage, input/output/supply</b>	1.5 kV (50 Hz, 1 min.)
<b>Electromagnetic compatibility</b>	Conformance with EMC Directive 2004/108/EC
<b>Noise emission</b>	EN 61000-6-4
<b>Noise immunity</b>	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
<b>Color</b>	green
<b>Housing material</b>	PBT
<b>Mounting position</b>	any
<b>Assembly instructions</b>	To bridge the supply voltage, the DIN rail connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, Order No. 2869728) can be used. It can be snapped onto a 35 mm DIN rail according to EN 60715.
<b>Conformance</b>	CE-compliant
<b>ATEX</b>	# II 3 G Ex nA IIC T4 Gc X
<b>UL, USA / Canada</b>	UL 508 Recognized
<b>UL, USA / Canada</b>	Class I, Div. 2, Groups A, B, C, D T5
<b>GL</b>	GL EMC 2 D

### EMC data

<b>Designation</b>	Electromagnetic RF field
<b>Standards/regulations</b>	EN 61000-4-3
<b>Typical deviation from the measuring range final value</b>	10 %
<b>Designation</b>	Fast transients (burst)
<b>Standards/regulations</b>	EN 61000-4-4
<b>Typical deviation from the measuring range final value</b>	10 %
<b>Designation</b>	Conducted interferences
<b>Standards/regulations</b>	EN 61000-4-6
<b>Typical deviation from the measuring range final value</b>	10 %

### classifications

#### eCl@ss

<b>eCl@ss 4.0</b>	27210120
<b>eCl@ss 4.1</b>	27210120
<b>eCl@ss 5.0</b>	27210120
<b>eCl@ss 5.1</b>	27210120
<b>eCl@ss 6.0</b>	27210120
<b>eCl@ss 7.0</b>	27210120
<b>eCl@ss 8.0</b>	27210120

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## classifications

### ETIM

<b>ETIM 2.0</b>	EC001485
<b>ETIM 3.0</b>	EC001485
<b>ETIM 4.0</b>	EC001485
<b>ETIM 5.0</b>	EC001485

### UNSPSC

<b>UNSPSC 6.01</b>	30211506
<b>UNSPSC 7.0901</b>	39121008
<b>UNSPSC 11</b>	39121008
<b>UNSPSC 12.01</b>	39121008
<b>UNSPSC 13.2</b>	39121008

## approvals

UL Listed / cUL Listed / ATEX / cULus Listed / UL Recognized / cUL Recognized / GL / cULus Recognized /

### Approval details

<b>UL Listed</b>	
Nominal voltage UN	
Nominal current IN	
mm <sup>2</sup> /AWG/kcmil	

<b>cUL Listed</b>	
Nominal voltage UN	
Nominal current IN	
mm <sup>2</sup> /AWG/kcmil	

<b>ATEX</b>
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<b>cULus Listed</b>
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## approvals

<b>UL Recognized</b>	
Nominal voltage UN	
Nominal current IN	
mm <sup>2</sup> /AWG/kcmil	

<b>cUL Recognized</b>	
Nominal voltage UN	
Nominal current IN	
mm <sup>2</sup> /AWG/kcmil	

<b>GL</b>
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<b>cULus Recognized</b>
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## accessories

### DIN rail connector

ME 6,2 TBUS-2 1,5/5-ST-3,81 GN - 2869728



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## Power module

MINI MCR-SL-PTB - 2864134



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## accessories

MINI MCR-SL-PTB-SP - 2864147



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## Power supply

MINI-SYS-PS-100-240AC/24DC/1.5 - 2866983



MINI-PS-100-240AC/24DC/1.5/EX - 2866653



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## System adapter

MINI MCR-SL-V8-FLK 16-A - 2811268



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## Marking material

MINI MCR DKL - 2308111



# Repeater power supply - MINI MCR-SL-RPS-I-I - 2864422

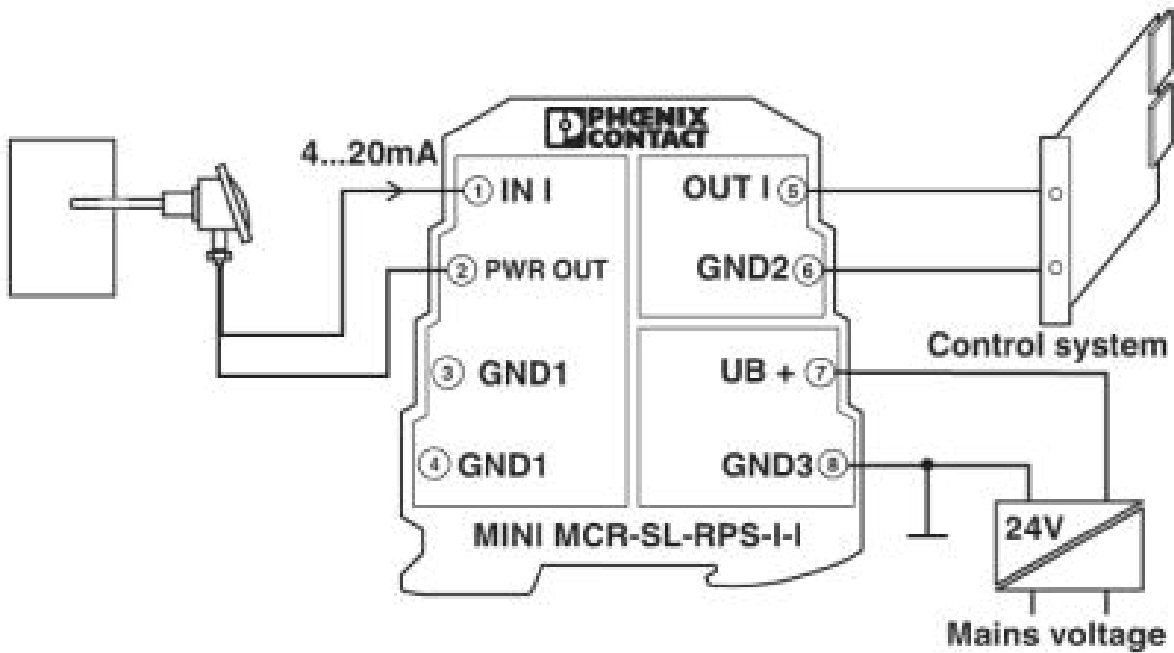
accessories

MINI MCR-DKL-LABEL - 2810272



## Drawings

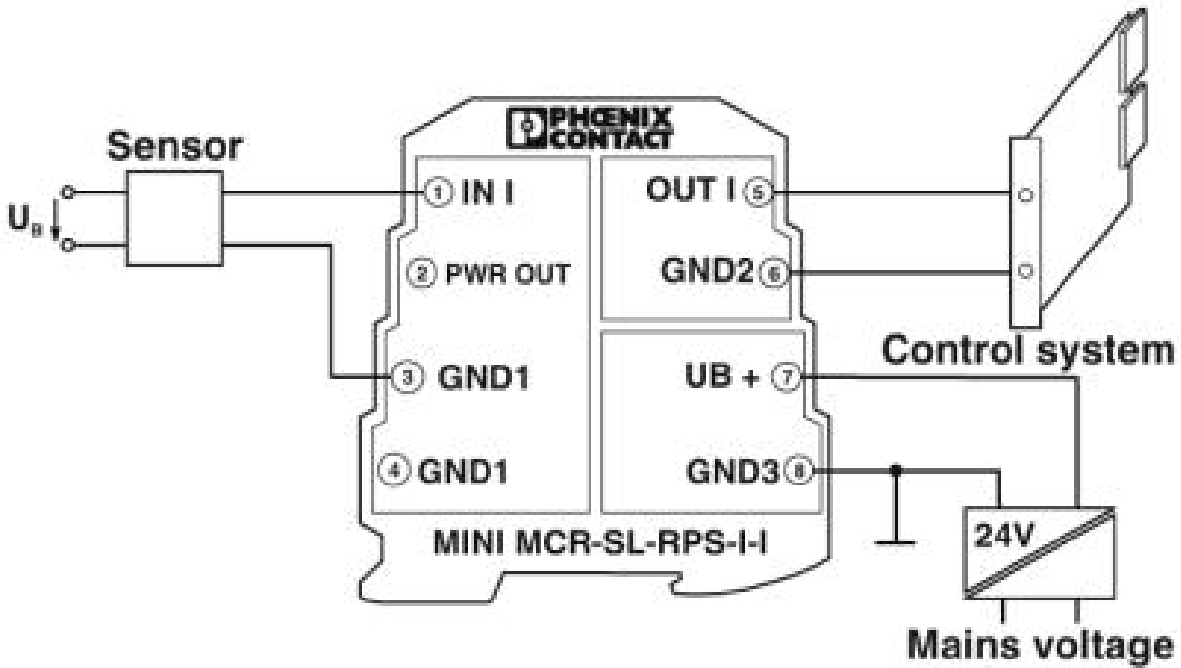
Application drawing



Repeater power supply operation with a passive sensor

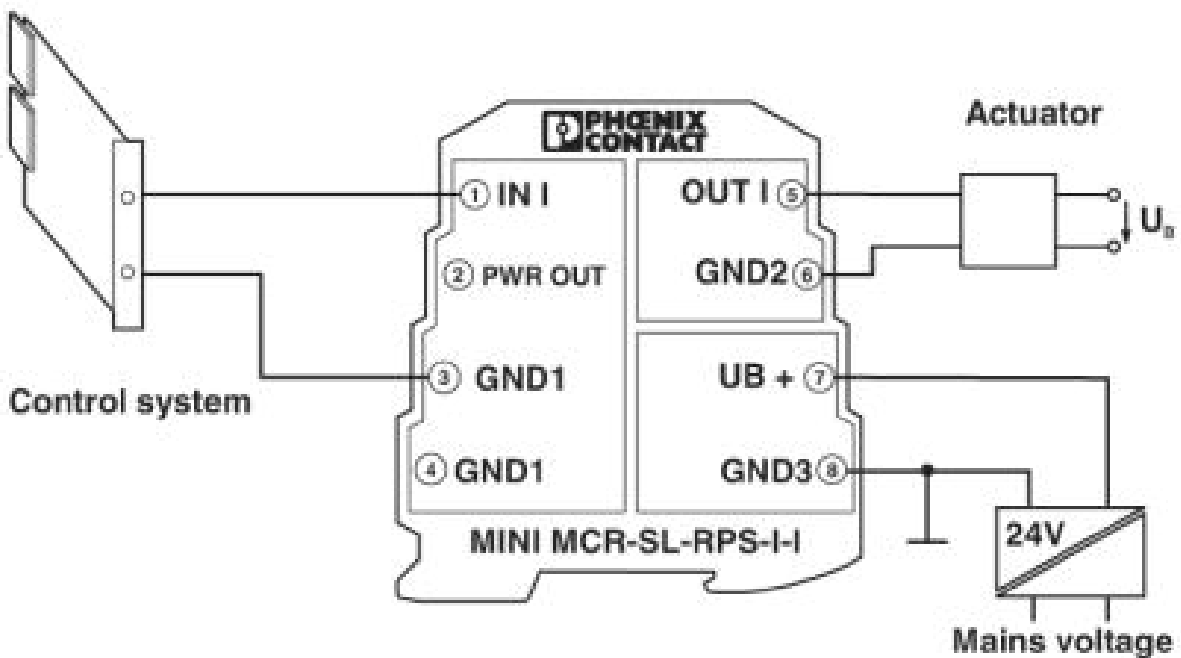
# Repeater power supply - MINI MCR-SL-RPS-I-I - 2864422

Application drawing



Isolator operation with an active sensor

Application drawing

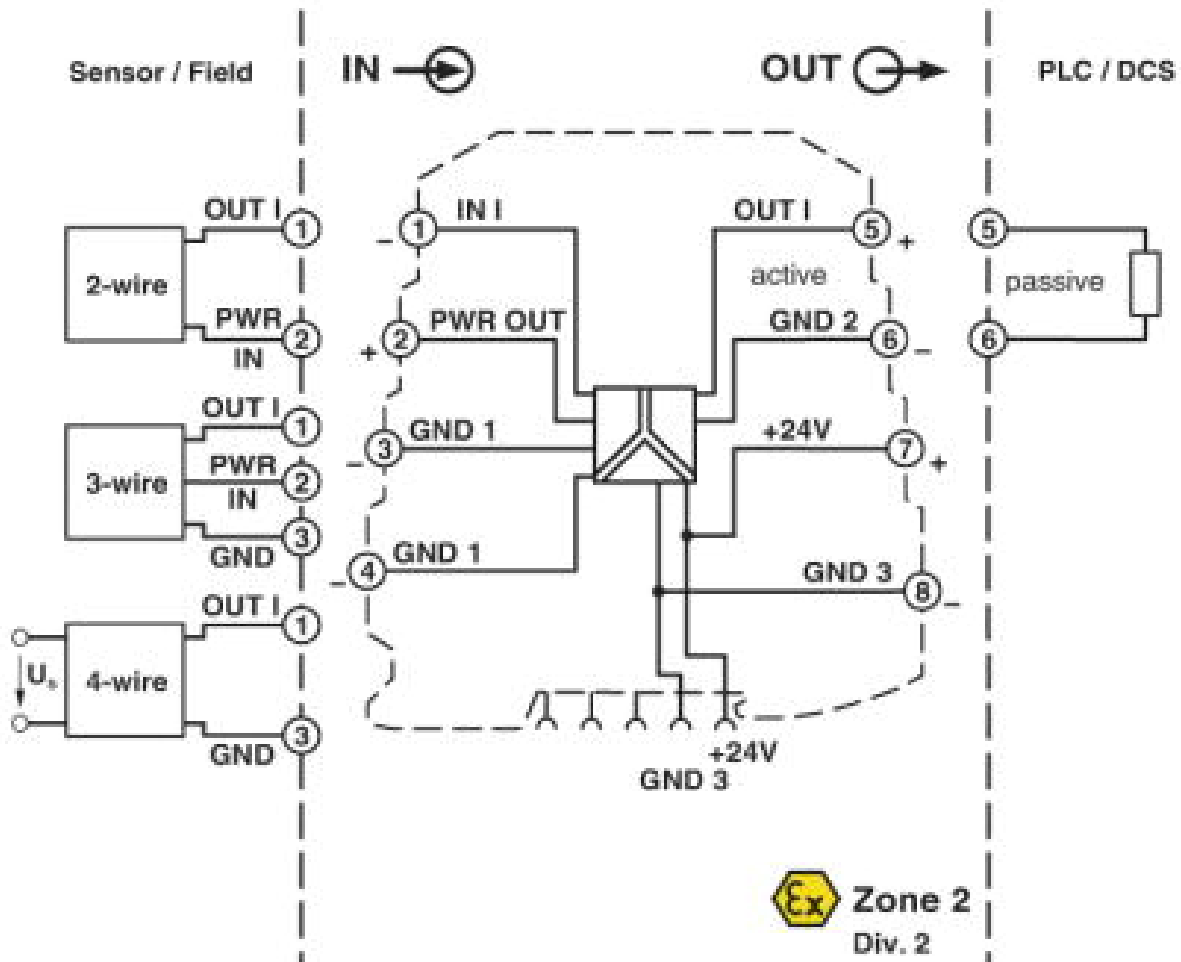


Isolator operation at the analog output module



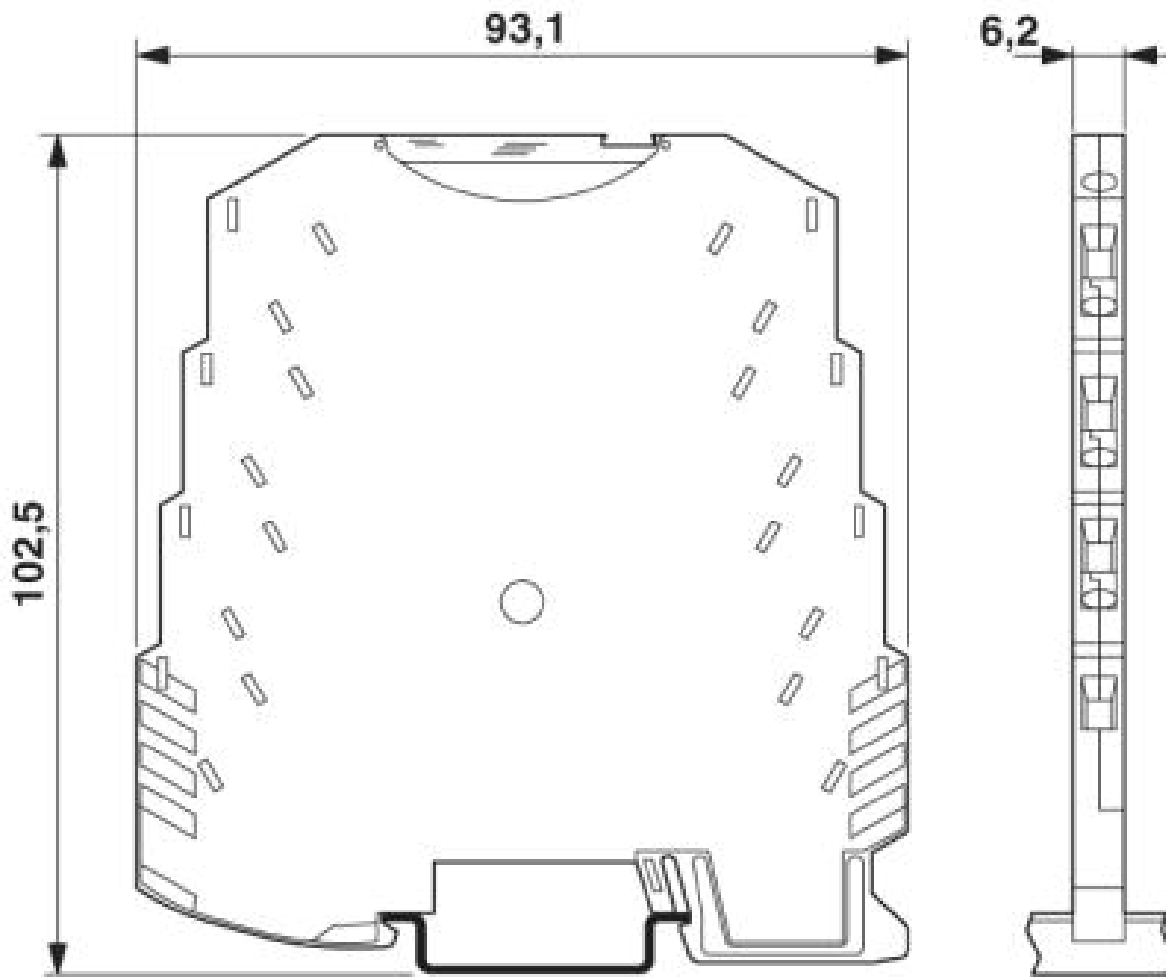
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Block diagram



# Repeater power supply - MINI MCR-SL-RPS-I-I - 2864422

Dimensioned drawing



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